



Appl. No. 10/825,569  
Attorney Docket No. 2004B025  
Response dated November 1, 2006  
Reply to Office Action dated September 20, 2006

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motivated to combine Vaughn and Williamson (nor would have had a reasonable expectation of success in doing so) and that even the combination of Vaughn and Williamson still fails to render obvious all of the currently pending claims.

Williamson, unlike Vaughn, is drawn to a regeneration process for reconditioning platinum-containing catalyst particles. *See* Williamson at column 3, lines 22-24; *see also* Abstract. Williamson teaches that its regeneration process is used in hydrogenation and dehydrogenation reactions, but is most widely used in catalytic reforming to improve the octane quality of hydrocarbon feedstocks to form motor gasoline. *See Id.* at column 6, lines 13-26. Thus, any disclosure Williamson might offer in terms of air separation (*see id.* at column 12, for example) are completely counteracted by Williamson's *teaching away* from oxygenates-to-olefins processes, as taught by Vaughn, and indeed as recited in presently pending claims 1-31.

To the extent that the Examiner is attempting to merely cite Williamson for the limited purpose of disclosing the use of gas streams that are enriched or deficient in oxygen, as compared to air, Applicants respectfully point out that each reference must be taken as a whole and cannot be used piecemeal. M.P.E.P. §§ 2141.02(VI), 2143.01(I); *accord W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). Williamson's preference and teaching of catalytic reforming processes does not logically implicate its combination with Vaughn's teaching of oxygenates-to-olefins processes. If the Examiner believes that one of ordinary skill in the art would have summarily ignored the majority of such teachings in Williamson's disclosure, Applicants respectfully submit that it is the Examiner's burden to so assert, using some scientific or logical rationale. In the absence thereof, Applicants respectfully submit that Williamson and Vaughn are not combinable to render obvious the presently claimed invention.

Even assuming, *arguendo*, that one of ordinary skill in the art would have been motivated to combine Williamson and Vaughn to disclose all the elements of currently pending claim 1, Applicants respectfully submit that several dependent claims recite features that are not disclosed or suggested even by their combination.

For instance, the Final Office Action indicated that the regeneration medium temperature recited in claims 2-3 would have been obvious based on Vaughn's disclosure of adding strength

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to the catalyst through contact with air. The Examiner cites column 10, lines 49-60, of Vaughn for such disclosure. On the contrary, Applicants respectfully point out that this portion of Vaughn not only discloses contact with (un-separated, not oxygen-enriched or oxygen-depleted) air, but also teaches de-coking temperatures of between about 250°C and about 700°C (see the following sentence of Vaughn at column 10, lines 60-63). This temperature range is significantly higher than that recited in claims 2-3. The Examiner attempts to remedy this deficiency in Vaughn by asserting that "it would have been obvious to one of ordinary skill in the art to use air from the atmosphere, which would be at room temperature or about 27 degrees C." See Office Action at page 3. However, in so stating, the Examiner is ignoring both the fact that Williamson, and NOT Vaughn, is cited for teaching an enriched and/or depleted (as compared to air) oxygen-containing stream, and NOT air, and the fact that Williamson not only does not teach using such streams at room temperature, but affirmatively teaches away from using low temperature gas streams. Indeed, U.S. Patent No. 4,787,919, which Williamson incorporates by reference at column 12, line 20, teaches superheating of compressed air for membrane air separation systems. (Applicants note that the other patent which Williamson incorporates by reference for membrane air separation systems, *i.e.*, U.S. Patent No. 3,830,733, at column 12, line 25, does not disclose any separation temperature and only discloses details of fabricating polymeric gas separation membranes).

Furthermore, the mere disclosure in Vaughn of a fluidized catalyst bed does not render obvious the step of using the separated nitrogen-containing stream as at least a portion of the fluidizing medium, as recited in presently pending claims 9-10. Aside from the fact that the Examiner has provided no scientific rationale for this rejection, Applicants respectfully submit that even the combination of Williamson and Vaughn do not disclose this step. Indeed, to the extent that Williamson does disclose air separation (though in a vastly different process than currently claimed), Williamson only teaches its use in "different treatment steps of the regeneration zone" (see column 12, lines 30-33), as noted by the Examiner when rejecting claim 1 on page 3 of the Office Action. Williamson does not teach or suggest the use of separated air streams in any other portion of any process, no less in any oxygenates-to-olefins process. This same argument applies to claim 11 (use of nitrogen-containing stream to regenerate the poison-

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containing molecular sieve particle), which rejection is, incidentally, also deficient in that the teaching of polyolefin polymerization also does not render obvious the presence of a polymerization catalyst poison nor a method of dealing with its presence. This same argument further applies at least to claim 21 (step a; use of oxygen-containing stream to convert the natural gas to syngas), claim 23 (step b; use of the nitrogen-containing stream to regenerate the water-containing molecular sieve particle), claim 24 (step b; using the nitrogen-containing stream to remove volatile compounds from the polymer), claims 25-26 (step b; using the nitrogen-containing stream for blanketing the polymer), and claims 27-28 (using the nitrogen-containing stream to derime any portion of an apparatus). The Examiner cannot summarily assume, without motivation either in the cited art or otherwise found in the record, that any step utilizing any of the separated streams must be obvious merely from the disclosure in Williamson.

Additionally, because Williamson teaches using separated air for regeneration purposes only, and because Vaughn teaches using non-separated air for regeneration purposes, Applicants respectfully submit that the Examiner has not shown how the combination of Vaughn and Williamson renders obvious the use of a compressed air stream (*e.g.*, pre-separation) to operate a valve actuator (claims 14-20), to fluidize and transport at least a portion of the molecular sieve catalyst composition (claim 29), for blanketing at least a portion of the molecular sieve catalyst composition in the catalyst storage unit (claim 30), or in an aerobic water treatment system for removing contaminants from a water-containing effluent stream (claim 31).

Similarly, Applicants respectfully submit that it is improper for the Examiner to assume that an integrated process for making oxygenates such as methanol from syngas must be obvious merely because Vaughn discloses methanol as an oxygenate to be converted, as is indicated on page 4 of the Office Action, with reference to claims 21-23.

The mere disclosure of an item does not teach, and it is Applicants' position that it further does not suggest, the obviousness of using any known process or process steps to form or provide said item. If the Examiner wishes, he can attempt to find such disclosure in one or more prior art references and reject the claims on a further combination. However, Applicants respectfully submit that, as the burden of asserting obviousness is on the Examiner, mere

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Examiner argument, without more, does not suffice to establish *prima facie* obviousness, and thus does NOT shift the burden to Applicants to prove non-obviousness.

Additionally, regarding claim 8, Applicants respectfully submit that the Examiner cannot use the weight ratio of oxygen to nitrogen in air from Vaughn, when Williamson, and NOT Vaughn, is cited for teaching an enriched and/or depleted (as compared to air) oxygen-containing stream, and NOT air. Indeed, Williamson only teaches the formation of nitrogen-enriched streams containing 7 mol% (corresponding to under 0.10 O<sub>2</sub>:N<sub>2</sub> weight ratio) oxygen or less and oxygen-enriched streams containing 39 mol% (corresponding to over 0.82 O<sub>2</sub>:N<sub>2</sub> weight ratio) oxygen. See Williamson at column 12, lines 26-30. As at least claim 8 recites an O<sub>2</sub>:N<sub>2</sub> weight ratio of from about 0.2 to about 0.5, Applicants respectfully submit that all the elements of this claim are not disclosed nor suggested by the combination of Vaughn and Williamson.

For any one or more of the foregoing reasons, Applicants respectfully submit that the obviousness rejection of claims 1-31 cannot be maintained and respectfully request its reconsideration and withdrawal.

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CONCLUSION

Having demonstrated that the cited references fail to disclose or suggest the invention as presented herein, and all other formal issues having now been fully addressed, this application is in condition for allowance. Accordingly, Applicants request early and favorable reconsideration in the form of a Notice of Allowance.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated, since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket #: 2004B025).

Respectfully submitted,

Date: \_\_\_\_\_

11/1/06



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